

HTIRC-02-021

April 30, 2004



To: Commissioner for Patents
P.O.Box 1450
Alexandria, VA 22313-1450

Fr: George O. Saile, Reg. No. 19,572
28 Davis Avenue
Poughkeepsie, N.Y. 12603

Subject: | Serial No. 10/786,806 02/25/04 |
Kunliang Zhang et al.
CPP GMR AND MAGNETOSTRICTION
IMPROVEMENT BY LAMINATING Co90Fe10
FREE LAYER WITH THIN Fe50Co50 LAYERS
| _____ |

INFORMATION DISCLOSURE STATEMENT

Enclosed is Form PTO-1449, Information Disclosure Citation
In An Application.

The following Patents and/or Publications are submitted to
comply with the duty of disclosure under CFR 1.97-1.99 and
37 CFR 1.56.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being
deposited with the United States Postal Service as first class
mail in an envelope addressed to: Commissioner for Patents,
P.O. Box 1450, Alexandria, VA 22313-1450, on May 4, 2004.

Stephen B. Ackerman, Reg.# 37761

Signature/Date

Stephen B. Ackerman 5/4/04

U.S. Patent 5,627,704 to Lederman et al., "Thin Film Giant Magnetoresistive CPP Transducer with Flux Guide Yoke Structure," discloses a CPP GMR stack structure formed within a gap located in one of two pole layers of a magnetic yoke structure which also has a transducing gap formed in an ABS plane.

U.S. Patent 5,668,688 to Dykes et al., "Current Perpendicular-to-the-Plane Spin Valve Type Magnetoresistive Transducer," discloses a spin valve CPP configuration in which the active layers form a stack of uniform width disposed between upper and lower shield and conductor layers.

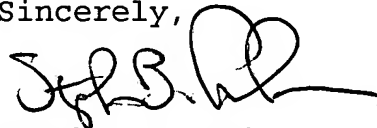
U.S. Patent 6,473,279 to Smith et al., "In-Stack Single-Domain Stabilization of Free Layers for CIP and CPP Spin-Valve or Tunnel-Valve Read Heads," teaches a CPP-GMR sensor whose ferromagnetic free layer is maintained in a single domain state by a layer configuration in which the free layer is separated from a pinning layer (below the free layer) by a non-magnetic spacer layer and an additional ferromagnetic layer is formed above the free layer and separated from it by an additional non-magnetic spacer layer formed of Ru.

U.S. Patent 6,226,197 to Nishimura, "Magnetic Thin Film Memory, Method of Writing Information in It, and Me," teaches a magnetic thin film memory using a variety of ferromagnetic layered materials.

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U.S. Patent 6,344,954 to Redon et al., "Magneto-Resistive Tunnel Junction Head with Specific Flux Guide Structure," teaches a MR tunnel junction whose ferromagnetic free layer and pinned layers are made of various layers of spin polarizing materials.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen B. Ackerman". The signature is fluid and cursive, with a large loop at the end.

Stephen B. Ackerman,
Reg. No. 37761

01 INFORMATION DISCLOSURE CITATION
IN AN APPLICATION
MAY 06 2004
(Use several sheets if necessary)

Docket Number (Optional)

HTIRC-02-021

Application Number

10/786,806

Applicant

Kunliang Zhang et al.

Filing Date

02/25/04

Group Art Unit

U. S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	ALSO DATE APPROPRIATE
	5627704	5/6/97	Lederman et al.	360	113	2/12/96
	5668688	9/16/97	Dykes et al.	360	113	5/24/96
	6473279	10/29/02	Smith et al.	360	324.12	1/4/01
	6344954	2/5/02	Redon et al.	360	324.2	3/2/00
	6226197	5/1/01	Nishimura	365	171	10/22/99

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Portmox Pages, Etc.)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.